



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/756,770

01/14/2004

Jung Ho Kang

040008-0307595

1519

909

7590

10/19/2006

PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

STOCK JR, GORDON J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,770

Applicant(s)

KANG, JUNG HO

Examiner

Gordon J. Stock

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment received on July 27, 2006 has been entered into the record.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 1-6** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In **claims 1 and 6** the particular inspecting step is an abstraction without a tangible result. Merely 'inspecting' would not appear to be sufficient to constitute a tangible result, since the outcome of the inspecting has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

Specifically: Part b. *Practical Application the Produces a Useful, Concrete, and Tangible Result* under Section IV *Determine Whether the Claimed Invention Complies with the Subject Matter Eligibility Requirement of 35 U.S.C. Sec. 101*, sentence 3, in the OG Notice from 22 November 2005 states 'In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible, and concrete."'

Claims 2-5 are also rejected for being dependent upon a rejected base claim. In addition, the further limiting of the parent **claim 1** with the particular limitations of **claims 2-5** does not constitute a tangible result to overcome the rejection under 35 U.S.C. 101 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ledger (5,365,340)-cited by applicant** in view of **Yagi (5,899,792)—previously cited**.

As for **claims 1 and 6**, Ledger discloses a method of inspecting an outer silicon layer of wafer (col. 1, lines 25-28), comprising collecting standard data for thickness of the layer (col. 7, lines 30-45) formed on the wafer at a plurality of locations as indicative of the whole wafer (Fig. 3: 52) as well as correlating positions on wafer with pixel positions of CCD (col. 8, lines 15-20) and collecting standard data for an optical image of the wafer at a plurality of locations (col. 7, lines 55-67; Fig. 3: 52); correlating the optic image data to the thickness data for each of said plurality of locations (col. 7, lines 65-67; col. 8, lines 1-20); creating a library by matching the optic image data to the thickness data for each of said plurality of locations (col. 8, lines 15-55); inspecting the layer with the library (col. 9, lines 1-20; col. 10, lines 13-20). Ledger does not explicitly state that an insulating layer may be inspected; yet he suggests it for any layer may be inspected (col. 10, lines 13-20) while mentioning an insulating layer (Fig. 2: 42) beneath the outer silicon layer being investigated (Fig. 2: 40). However, Yagi in a wafer processing apparatus teaches that wafer insulating layers that exhibit steps cause dielectric breakdown and a high leakage current (col. 1, lines 30-35). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to inspect the insulating layer of a wafer to ensure

Art Unit: 2877

that the insulating surface is planar to ensure a lack of dielectric breakdown and low leakage current in the wafer.

As for **claim 2**, Ledger in view of Yagi discloses everything as above (see **claim 1**). In addition, Ledger discloses the thickness standard data is for a particular region of the wafer, the whole of the wafer (col. 7, lines 15-30) as well as specific points on the wafer (col. 7, lines 42-45).

As for **claim 3**, Ledger in view of Yagi discloses everything as above (see **claim 1**). In addition, Ledger discloses the standard data for the optic image is for a particular region of the wafer, the whole of the wafer (Fig. 3: 52; col. 7, lines 58-67) and specific points from pixel correlation (col. 8, lines 10-20).

As for **claim 4**, Ledger in view of Yagi discloses everything as above (see **claim 1**). In addition, Ledger discloses the optic images are digital images (Fig. 1: 34)

As for **claim 5**, Ledger in view of Yagi discloses everything as above (see **claim 1**). In addition, Ledger discloses each optic image for the region represented by each thickness data is determined and a continuous image library for each thickness is constructed (col. 7, lines 30-40 and lines 58-65; col. 8, lines 40-55).

Response to Arguments

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. The Examiner apologizes for the inconvenience but upon further consideration a rejection under 35 U.S.C. 101 has been made. See above.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

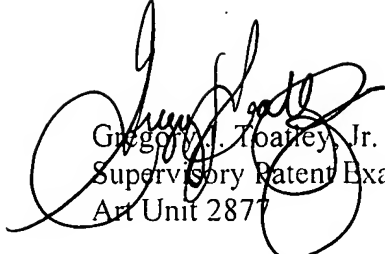
Application/Control Number: 10/756,770

Page 6

Art Unit: 2877

gs

October 13, 2006


Gregory J. Tooley, Jr.
Supervisory Patent Examiner
Art Unit 2877